CLAIMS

What is claimed is:

1.   A method for extracting generalized guideline execution tasks from a guideline representation model, comprising:

abstracting a process structure and primary tasks from the guideline representation model;

specifying auxiliary tasks embedded within the primary tasks;

extracting structural elements representing participants of guideline execution tasks, and elements referenced by the structural elements; and

defining execution constraints for use in task scheduling.

2.   The method of claim 1, wherein the process structure and primary tasks are abstracted from the guideline representation model based on an analysis of representation elements that represent the process structure and the primary tasks in the guideline representation model, and the relationships among the representation elements.

3.   The method of claim 1, wherein the primary tasks are abstracted directly from the guideline representation model.

4.   The method of claim 1, wherein the structural elements representing participants of guideline execution tasks include structure elements that are direct participants of the guideline execution tasks.

5.   The method of claim 1, wherein the execution constraints correspond to representation elements in the guideline representation model.

6.   A method for integrating generalized guideline execution tasks into a generic guideline representation model, comprising:

extracting generalized guideline execution tasks from a guideline representation model;

representing the guideline execution tasks as execution task classes;

arranging the execution task classes in a hierarchy, to form an execution task subontology;

specifying basic structure elements of the guideline execution tasks;

representing the basic structure elements as structure element classes;

5   arranging the structure element classes in a hierarchy, to form a structure element subontology;

specifying execution constraints for use in task scheduling;

representing the execution constraints as execution constraint classes; and

arranging the execution constraint classes in a hierarchy, to form a structure element

10   subontology.

7.   The method of claim 6, further comprising the step of creating at least one slot in at least one of the execution task classes, the structure element classes, and the execution constraint classes.

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8.   The method of claim 7, wherein the execution task classes, structure element classes, and execution constraint classes, and their slots, correspond to representation elements or primitives in the guideline representation model.

20   9.   The method of claim 6, wherein the generalized guideline execution tasks comprise a process structure and primary guideline execution tasks.

10.   The method of claim 9, wherein the primary guideline execution tasks comprise auxiliary tasks.

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11.   The method of claim 6, further comprising the step of presetting slots in the execution task classes, to define participating structure elements and execution constraints.

12.   The method of claim 6, wherein the basic structure elements comprise a

30   guideline, a process structure, and primary tasks.

13. The method of claim 12, wherein the structure element classes comprise the basic structure elements and additional structure elements referenced by the basic structure elements.

5   14. The method of claim 13, further comprising the step of specifying slots in the structure element classes, to define references to other classes in the structure element subontology.

15. The method of claim 6, wherein each of the execution constraint classes

10   contains at least one slot for use in specifying execution constraints.

16. The method of claim 6, further comprising the step of including additional classes and slots corresponding to representation elements in one or more additional guideline execution tasks.

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17. A method for providing a generic guideline representation model for use by a guideline execution engine, the method comprising:

extracting generalized guideline execution tasks from a guideline representation model having representation elements; and

20   integrating the generalized guideline execution tasks to form a generic guideline representation model.

18. The method of claim 17, further comprising integrating representation elements not found in the guideline representation model into the generic representation

25   model.

19. The method of claim 17, wherein the generalized guideline execution tasks are common to at least two guideline representation models.

30   20. The method of claim 17, wherein the generalized guideline execution tasks comprise at least one of: input elements, output elements, subtasks, and execution constraints.

21. The method of claim 20, wherein the input elements and output elements are static structure elements derived from the representation elements.

22. The method of claim 20, wherein the input elements define participants for a guideline execution task.

23. The method of claim 20, wherein the output elements comprise execution results.

24. The method of claim 20, wherein the subtasks define relationships between current guideline execution tasks and other tasks.

25. The method of claim 20, wherein, if the guideline execution task comprises subtasks, the method further comprises decomposing each of the subtasks to an atomic task that can be performed directly.

26. The method of claim 20, wherein the execution constraints provide dynamic association among primary guideline execution tasks.

27. The method of claim 26, wherein the primary guideline executions tasks comprise preconditions, postconditions, and events.

28. The method of claim 17, wherein the representation elements of the guideline representation model comprise structural specifications that define static structure elements and execution constraints.

29. The method of claim 28, further comprising mapping the static structure elements and the execution constraints to corresponding static structure elements and execution constraints of the generic guideline representation model, to provide a mapping relationship for use by a guideline execution engine.

30. A system for providing a generic guideline representation model for use by a guideline execution engine, the system comprising at least one computing device including software that, when executed, performs a method comprising:

extracting generalized guideline execution tasks from a guideline representation

5 model having representation elements; and

integrating the generalized guideline execution tasks to form a generic guideline representation model.

31. The system of claim 30, wherein the method further comprises integrating

10 representation elements not found in the guideline representation model into the generic representation model.

32. The system of claim 30, wherein the generalized guideline execution tasks are common to at least two guideline representation models.

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33. The system of claim 30, wherein the generalized guideline execution tasks comprise at least one of: input elements, output elements, subtasks, and execution constraints.

34. The system of claim 33, wherein the input elements and output elements are

20 static structure elements derived from the representation elements.

35. The system of claim 33, wherein the input elements define participants for a guideline execution task.

25 36. The system of claim 33, wherein the output elements comprise execution results.

37. The system of claim 33, wherein the subtasks define relationships between current guideline execution tasks and other tasks.

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38.   The system of claim 33, wherein, if the guideline execution task comprises subtasks, the method further comprises decomposing each of the subtasks to an atomic task that can be performed directly.

5   39.   The system of claim 33, wherein the execution constraints provide dynamic association among primary guideline execution tasks.

40.   The system of claim 33, wherein the primary guideline executions tasks comprise preconditions, postconditions, and events.

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41.   The system of claim 30, wherein the representation elements of the guideline representation model comprise structural specifications that define static structure elements and execution constraints.

15   42.   The system of claim 41, wherein the method further comprises mapping the static structure elements and the execution constraints to corresponding static structure elements and execution constraints of the generic guideline representation model, to provide a mapping relationship for use by a guideline execution engine.

20   43.   A computerized method for enabling a user to map between a guideline representation model and a generic guideline representation model, comprising:
        presenting a user interface that allows a user to select a project file of the guideline representation model and a project file of the generalized representation model;
        loading the selected files; and
25   presenting a user interface including therein class structures of the selected files and slots of the class structures, the user therewith capable of generate a mapping relationship.

44.   The method of claim 43, wherein the user is capable of generating a mapping relationship by selecting a set of anchoring class pairs.

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45.   The method of claim 44, wherein each anchoring class pair comprises a class from the guideline representation model, a class from the generic guideline representation

model, the user interface enabling a user to specify at least one of the type of class mapping, one or more conditions for class mapping, and a set of slot mapping.

46.   The method of claim 43, further comprising saving the mapping relationship as an XML file.

47.   A system for enabling a user to map between a guideline representation model and a generic guideline representation model, the system comprising at least one computing device including software that, when executed, performs a method comprising:

presenting a user interface that allows a user to select a project file of the guideline representation model and a project file of the generalized representation model;

loading the selected files; and

presenting a user interface including therein class structures of the selected files and slots of the class structures, the user therewith capable of generate a mapping relationship.

48.   The system of claim 47, wherein the user is capable of generating a mapping relationship by selecting a set of anchoring class pairs.

49.   The system of claim 48, wherein each anchoring class pair comprises a class from the guideline representation model, a class from the generic guideline representation model, the user interface enabling a user to specify at least one of the type of class mapping, one or more conditions for class mapping, and a set of slot mapping.

50.   The system of claim 47, the method further comprising saving the mapping relationship as an XML file.